



UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

| | | | |
|-----------------|-------------|----------------------|---------------------|
| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
|-----------------|-------------|----------------------|---------------------|

| |
|----------|
| EXAMINER |
|----------|

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

DATE MAILED:

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/442,038

Applicant(s)

YONEDA ET AL.

Examiner

THANH V TRAN

Art Unit

2814

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 29 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 2, 5, 7-13, 15, 18, 20-22, 27-41 and 44-50 ~~is/are~~ pending in the application.
4a) Of the above claim(s) 27-33, 37-41 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 10-13 and 34-38 ~~is/are~~ rejected.
- 7) ☐ Claim(s) 2, 5, 7-9, 15, 18, 20-22, and 44-50 ~~is/are~~ objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachments

- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-646)
- 16) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-646)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 214
- 18) ☐ Notice of Informal Patent Application (PTO-101)
- 20) ☐ Other

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I in Paper No. 6 is acknowledged. However, the examiner realize that claims 2,5,7-9 and 44-50 should be added to Group I for a proper restriction.

Drawings

2. The drawing (figure 84a) is objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "13 " and "213 " have both been used to designate "metallic films" and reference characters "17" and "217" have both been used to designate "resin projections". Correction is required.

Claim Objections

3. Claims 2,5,7-9,15,18,20-22 and 44-50 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. These claims are dependent on cancelled claims . Claims 2, 5, 7-9 and 44-46 are dependent on cancelled claim 1. Claims 15,18, 20 and 21 are dependent on cancelled claim 14. Claim 22 is dependent on claim 20 but claim 20 is dependent on cancelled claim 14. Claims 47,49 and 50 are dependent on claim 44, but claim 44 is dependent on claim 1. Claim 48 is dependent on claim 47, but claim 47 is dependent on claim 44

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

5. Claims 10 and 34-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Takashi (Reference AK of IDS, paper No. 4).

Takashi discloses a device comprising:

a chip 4,

a resin package sealing the chip having a first portion 3 and second resin portion

5 ,

the chip being provided on the first resin portion and covered by the second resin portion,

connecting parts having bonding wire 7 and connection electrode (see provided figures),

metallic films 1 provided to the connection electrodes of the connecting parts.

7. Claims 11- 13 are rejected under 35 U.S.C. 102(e) as being anticipated by

Chao et al. disclose a device comprising :

A chip 120

A resin package having a first resin portion 105 (as called mount-side surface as claimed in claim 34 and resin tape as claimed in claim 12) and a second resin portion 145

The first resin portion having through hole 140

Electrode parts 136 provided to the first resin portion 145 to cover the through holes 140

The connecting parts comprising bonding wires 132

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takashi in view of Hosomi et al.(U.S patent # 5631499).

Takashi discloses most aspects of the instant invention (paragraph 4) except the metallic films comprising a plurality of metallic layer which are stacked and the connecting parts comprising bumps provided between the electrode pads of the chip and the metallic films.

9. Referring to figure 11, Hosomi et al. teach forming a metallic films 3 comprising a plurality of metallic layer which are stacked and the connecting parts comprising bump 6 provided between the electrode pads of the chip and the metallic films to improve intensity of adhesion between the bump electrode and the electrode pad (column 1, lines 29-30 and 32-33). It would be obvious to one having ordinary skill in the art of the time the invention was made to form a bump between the electrode pads of the chip and metallic films as taught by Hosomi et al. in the device of Takashi to improve intensity of adhesion between the bump electrode and the electrode pad.

Conclusion

10. Papers related to this application may be submitted directly to Art Unit 2814 by facsimile transmission. Papers should be fax to Art Unit 2814 via the Art Unit 2814 Fax Center located in Crystal Plaza 4, room 4C23. The faxing of such papers must conform with the notice published in the official Gazette, 1096 OG 30(15 November 1989). The Art Unit 2814 Fax Center number is (703)308-7722 or -7724. The Art Unit 2824 Fax Center is to be used only for papers related to Art Unit 2814 applications.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to THANH V TRAN whose telephone number is 703-306-0208. The examiner can normally be reached on 8:00AM-5:30PM Monday through Friday or by e-mail via Thanh.Tran1@uspto.gov.

12. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Qik Chhabra can be reached on 703-306-2794. The fax

Art Unit: 2814

phone numbers for the organization where this application or proceeding is assigned are 703 -308-7722 for regular communications and 703 -305-3431 for After Final communications.

13. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

14. The following list is the Examiner's field of search for the present Office Action:

| Field of Search | Date |
|--|-----------|
| U.S Class/Subclass(es): 257/730,734,736,737,689,700 438/26,611-614 | 06/ 12/01 |
| Other Documentation: | |
| Electronic Database(s): East (USPAT) | 06/12/01 |

Thanh Tran
June 18, 2001

Thanh Tran
Patent Examiner
Tech Center 2814